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(54) Title: HYDROGENATION CATALYST, PREPARATION THEREOF, AND METHOD FOR THE PREPARATION OF GAMMA-BUTYROLACTONE FROM MALEIC ANHYDRIDE USING THE CATALYST

(57) Abstract: The present invention relates to a hydrogenation catalyst represented by the following formula 1, a method for the preparation thereof, and a method for preparing gamma-butyrolactone using this catalyst. The method for preparing gamma-butyrolactone from maleic anhydride using the catalyst of the invention prepared by stabilizing the precursor particles of copper oxide, zinc oxide, and manganese oxide with a silica exhibits high selectivity, high yield, and high productivity under the operation conditions of a low molar ratio of hydrogen with regard to the reactants, and enables the preparation of gamma-butyrolactone from maleic anhydride with long-term stability without requiring frequent re-activation of the catalyst: Formula (I) CuO(a)ZnO(b)MnO<sub>2</sub>(c)SiO<sub>2</sub>(d) wherein a, b, c, and d are represented on the basis of weight, wherein a is 20 to 90, b is 0.01 to 10, c is 0.01 to 5, and d is 5 to 50.

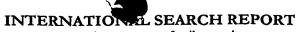


## INTERNATIONAL SEARCH REPORT

International application No. PCT/KR 03/00800-0

CLA	SSIFICATION OF SUBJECT MATTER								
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According to International Patent Classification (IPC) or to both national classification and IPC									
B. FIEL	DS SEARCHED documentation searched (classification system followed by	classification symbols)							
	01J, C07D								
Document	ation searched other than minimum documentation to the e	extent that such documents are included in	the fields searched						
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Electronic	data base consulted during the international search (name	of data base and, where practicable, search	th terms used)						
EPOD	OC; WPI								
1	CUMENTS CONSIDERED TO BE RELEVANT								
Category	Citation of document, with indication, where appropriate,	of the relevant passages	Relevant to claim No.						
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Α,	EP 0528305 A2 (Hoechst Aktiengesells (24.02.93) examples, claims.	1-15							
A	EP 0559053 A2 (Hoechst Aktiengesells (08.09.93) claims.	1-15							
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Fur	ther documents are listed in the continuation of Box C.	See patent family annex.							
* Special categories of cited documents:  "A" document defining the general state of the art which is not considered to be of particular relevance  "E" earlier application or patent but published on or after the international filing date  "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)  "O" document referring to an oral disclosure, use, exhibition or other means  "P" document published after the international filing date or pridate and not in conflict with the application but cited to underst the principle or theory underlying the invention cannot considered novel or cannot be considered to involve an inventive when the document is taken alone  "Y" document of particular relevance; the claimed invention cannot considered to involve an inventive step when the document is combined with one or more other such documents, such combined being obvious to a person skilled in the art  "E" document published after the international filing date or pridate and not in conflict with the application but cited to underst the principle or theory underlying the invention cannot considered novel or cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combined being obvious to a person skilled in the art  "E" alter document published after the international filing date or pridate and not in conflict with the application but cited to underst the principle or theory underlying the invention considered novel or cannot be considered novel or cannot be considered to involve an inventive when the document is taken alone  "Y" document of particular relevance; the claimed invention cannot considered to involve an inventive when the document is acken alone  "Y" document of particular relevance; the claimed invention cannot considered to involve an inventive when the document is acken alone  "Y" document of particular relevance; the claimed invention ca									
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